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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,340	06/05/2001	Hiroyuki Shinbata	35. C15406	4136
5514	7590	12/23/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			TABATABAI, ABOLFAZL	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2625

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,340

Applicant(s)

SHINBATA, HIROYUKI

Examiner

Abolfazl Tabatabai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/11/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiod et al (U S. 5,732,149).

Regarding claim 1 Kido discloses an image processing method comprising:

an input step of inputting image data obtained by photographing a photographic subject (column 5, lines 40-50);

a first extraction step of analyzing said image data and extracting a characteristic amount in an anatomic area in a photographic subject image (column 16, lines 44-60);

a second extraction step of extracting the characteristic amount in a preset area in said photographic subject image (column 17, lines 7-21);

a setting step of setting the characteristic amount in said photographic subject image based on a relation between the characteristic amount obtained by said first extraction step and the characteristic amount obtained by said second extraction step (see abstract and column 13, lines 48-54); and,

an image processing step of performing an image processing by using an image processing condition based on the characteristic amount set by said setting step (fig. 4, element 14 and column 14, lines 35-45).

Regarding claim 1 Kido discloses the image processing method according to claim 1 wherein said setting step comprises steps of: obtaining a difference between the characteristic amount obtained by said first extraction step and the characteristic amount obtained by said second extraction step (column 17, lines 7-21); judging whether or not the characteristic amount obtained by said first extraction step is appropriate based on the difference; and selecting the characteristic amount obtained by said first extraction step or the characteristic amount obtained by said second extraction step based on a judgment result (column 13, lines 35-46).

Claims 8 and 11 are similarly analyzed as claim 1 above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kido et al (U S 5,732,149) in view of Friedrich et al (U S 5,982,848).

Regarding claim 2, Kido is silent about the specific details regarding the image processing method according to claim 1 wherein said preset area in the photographic subject image includes an area set in accordance with a position of a photo timer. In the same field of endeavor (medical image), however, Friedrich discloses x-ray diagnosis machine having displacement measurement field comprising the

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photographic subject image includes an area set in accordance with a position of a photo timer (column 3, lines 1-17).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use photo-timer as taught by the Friedrich in the system of Kido because Friedrich provides Kido system relates to new and useful improvements in x-ray diagnosis machine. More particularly, this system relates to an x-ray diagnosis machine having an x-ray source and an image recording device with a photo-timer.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-7, 9, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiod et al (U S 5,732,149) in view of Bamberger et al (U S 5,854,851).

Regarding claim 4 Kido discloses an image processing method for extracting a characteristic amount for use in a gray scale conversion processing from an object image, comprising:

an extraction step of extracting a plurality of characteristic amounts from said object image (column 16, lines 44-55).

However, Kido is silent about the specific details regarding the step of:

a selection step of selecting the characteristic amount for use in said gray scale conversion processing from the respective characteristic amounts obtained by said extraction step based on a result of comparison of a difference among the respective characteristic amounts obtained by said extraction step with a predetermined threshold value.

In the same filed of endeavor (medical image), however, Bamberger discloses system and method for diagnosis of living tissue diseases using digital image processing comprising the step of:

a selection step (column 8, lines 66-67 and column 9, lines 1-8) of selecting the characteristic amount for use in said gray scale conversion (column 7, lines 54-56) processing from the respective characteristic amounts obtained by said extraction step based on a result of comparison of a difference among the respective characteristic amounts obtained by said extraction step with a predetermined threshold value (column 25, lines 63-67).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use gray scale conversion and threshold value as taught by the bamberger in the system of Kido because Bamberger provides Kido an improved system which is designed to support radiologists analyzes by characterizing equivocal and suspicious findings detected on routine mammogram, so to improve visualization of the suspected finding and to qualify the mammographic features of suspected lesions.

Regarding claim 5, Kido discloses the image processing method according to claim 4 wherein said extraction step comprises a first extraction step of limiting a

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predetermined area of said object image and extracting a first characteristic amount from the predetermined area (column 16, lines 44-60), and a second extraction step of extracting a second characteristic amount from a fixed area of said object image (column 17, lines 7-21).

However, Kido is silent about the specific details regarding the step of:

selection step comprises a step of selecting said second characteristic amount when a difference between said first characteristic amount and said second characteristic amount is larger than said predetermined threshold value, and a step of selecting said first characteristic amount when the difference between said first characteristic amount and said second characteristic amount is not larger than said predetermined threshold value.

In the same field of endeavor (medical image), however, Bamberger discloses system and method for diagnosis of living tissue diseases using digital image processing comprising the step of:

selection step comprises a step of selecting (column 8, lines 66-67 and column 9, lines 1-8) said second characteristic amount when a difference between said first characteristic amount and said second characteristic amount is larger than said predetermined threshold value, and a step of selecting said first characteristic amount when the difference between said first characteristic amount and said second characteristic amount is not larger than said predetermined threshold value (column 25, lines 63-67).

It would have been obvious to a person of ordinary skill in the art at the time the

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invention was made to use threshold value as taught by the bamberger in the system of Kido because Bamberger provides Kido an improved system which is designed to support radiologists analyzes by characterizing equivocal and suspicious findings detected on routine mammogram, so to improve visualization of the suspected finding and to qualify the mammographic features of suspected lesions.

Regarding claim 6, Kido discloses n image processing method for extracting a characteristic amount for use in a gray scale conversion processing from an object image, comprising:

an extraction step of extracting at least a first characteristic amount (column 16, lines 44-60) and a second characteristic amount from said object image (column 17, lines 7-21).

However, Kido is silent about the specific details regarding the step of:

a selection step of selecting the characteristic amount for use in said gray scale conversion processing from at least said first characteristic amount and said second characteristic amount based on a result of comparison of a difference between a pixel value corresponding to a predetermined density value obtained from a gray scale conversion curve defined by said first characteristic amount, and said second characteristic amount, with a predetermined threshold value.

In the same filed of endeavor (medical image), however, Bamberger discloses system and method for diagnosis of living tissue diseases using digital image processing comprising the step of:

a selection step (column 8, lines 66-67 and column 9, lines 1-8) of selecting the characteristic amount for use in said gray scale conversion processing from at least said first characteristic amount and said second characteristic amount based on a result of comparison of a difference between a pixel value corresponding to a predetermined density value (column 6, lines 8-13) obtained from a gray scale conversion curve (column 7, lines 54-56) defined by said first characteristic amount, and said second characteristic amount, with a predetermined threshold value (column 25, lines 63-67). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use density value as taught by the bamberger in the system of Kido because Bamberger provides Kido an improved system which is designed to support radiologists analyzes by characterizing equivocal and suspicious findings detected on routine mammogram, so to improve visualization of the suspected finding and to qualify the mammographic features of suspected lesions.

Claim 7, is similarly analyzed as claim 5 above.

Claim 9, is similarly analyzed as claim 4 above.

Claim 10, is similarly analyzed as claim 6 above.

Claim 12, is similarly analyzed as claim 4 above.

Claim 13, is similarly analyzed as claim 4 above.

Citation of Relevant Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogura et al (U S 6,502,984 B2) disclose radiographic apparatus.

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Yanagita et al (U S 6,415,049 B1) disclose apparatus for detecting and processing a radiation image.

Echerer et al (U S 5,740,267) disclose radiographic image enhancement comparison and storage requirement reduction system.

Fujii (U S 5,285,786) disclose apparatus and method for radiographic diagnosis.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (703) 306-5917.

The examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mehta Bhavesh M, can be reached at (703) 308-5246.

Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for **formal** communications; please mark
"EXPEDITED PROCEDURE")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 305-4750

Abolfazl Tabatabai

Patent Examiner

Group Art Unit 2625

November 11, 2004

A. Tabatabai